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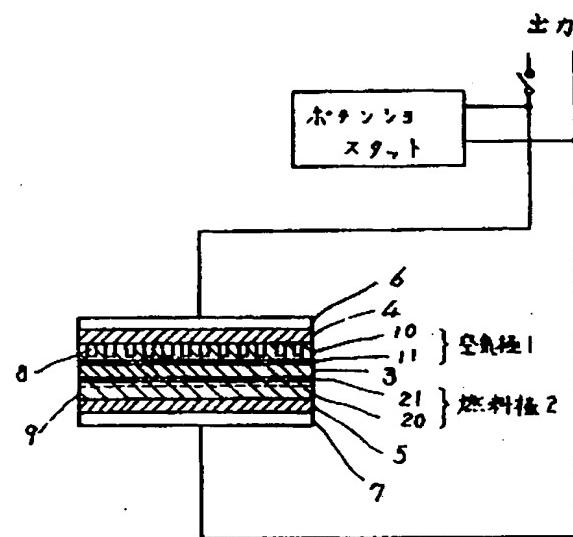
APPLICATION DATE : 19-04-85
APPLICATION NUMBER : 60082401

APPLICANT : HITACHI LTD;

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TITLE : REGENERATING METHOD FOR PHOSPHORIC ACID-ELECTROLYTE TYPE FUEL CELL



ABSTRACT : PURPOSE: To regenerate a cell whose performance deteriorates caused by phosphoric acid disappearing from a matrix, by applying voltage, from the outside, between a fuel pole and an air pole in a unit cell when the fuel cell operation is stopped, so that the potential of the fuel pole becomes higher than that of the air pole.

CONSTITUTION: An air pole 1 is composed of a substrate 10 and catalyst layer 11, and a fuel pole 2 is composed of a substrate 20 and catalyst layer 21. An electrolyte holding matrix 3 exists between the catalyst layers 11 and 21. In this case, the catalyst is applied on a porous ribmounted electrode substrate, to compose the air pole and fuel pole. The catalyst is made of carbon particles carrier having platinum, and a silicon carbide-zirconium phosphate matrix holding 60% phosphoric acid is put between the air pole and the fuel pole to form a unit cell. Dense graphite plates are used as separators. A potentiostat is connected at the output terminal so that the potential of the fuel pole can be kept higher than that of the air pole. Air and pure hydrogen are made to flow respectively at the air pole 1 and at the fuel pole 2 to obtain electric generation. In order that the potential of the fuel pole is made higher than that of the air pole, both poles together have a structure in which nitrogen-purge can be performed.

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